

Dec 19 02 08:25a

ERG Olin

423 336 4166

p.1



P.O. BOX 248, 1186 LOWER RIVER ROAD, NW, CHARLESTON, TN 37310-0248
(423) 336-4000 FAX: (423) 336-4166

TO: MIKE MURPHY

December 18, 2002

FROM:

STEVE MORROW

Stephen M. Johnson, Chief
Site Management Section
Bureau of Waste Site Cleanup
Commonwealth of Massachusetts
Department of Environmental Protection
205A Lowell Street
Wilmington, MA 01887

Dear Mr. Johnson:

The enclosed additional documents dealing with chemicals used at the Eames Street Facility have just come to our attention. Please consider the information contained in them as supplementary to the letter we sent you on November 27, 2002.

Sincerely,

A handwritten signature in cursive ink, appearing to read "Steve Morrow".
Steve Morrow
Principle Environmental Specialist

SGM/kc
attachment

Dec 19 02 08:25a

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DEC 17 2002 14:30 FR 72

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?2 TO 2625#083660041#1 P.0C

12/17/02 12:35PM; #577; Page 2

p.2

FILE COPY WILM

C/LA

Olin CHEMICALS

P.O. BOX 248, LOWER RIVER ROAD, CHARLESTON, TN 37310

PHONE: (615) 336-4000

May 3, 1991

Ed Roberts, P. Eng.
Conestoga-Rovers & Associates Limited
651 Colby Drive
Waterloo, Ontario, Canada N2V 1C2

Re: Raw Materials and Products
Wilmington Site

Dear Ed,

Attached is a listing of the chemicals used at the site for your use.

Sincerely,

OLIN CORPORATION

Steve M. Smith

~~Supervisor, Environmental~~
Supervisor, Environmental
Technical Support Group

SGM/lb
attachment
428

OW 044578

Dec 19 02 08:25a

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OC-10000A REV 5-88

423 336 4166
72 TO 2625#063660041RI P.03
12/17/02 12:35PM;#577; Page 3/20

P.3

INTER OFFICE MEMO



TO Steve Morrow AT Charleston
FROM Don Cameron AT Wilmington
SUBJECT Product/Raw Material List

RECEIVED

FEB 16 1990 FILE COPY

S. G. MORROW
Date February 14, 1990

COPY TO K. Cooper

Please find enclosed a product/raw material list for Wilmington, MA.

This list was compiled from available records and various memories
and is not necessarily complete. Some spellings are suspect.

A handwritten signature in black ink, appearing to read "Donald W. Cameron".

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(encl)

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72 TO 2625#083660041#1 P.04
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PLANT A: OPEX (Dinitrosopentamethylene tetramine)

1. Sodium Nitrite
2. Hexamine
3. Muriatic Acid
4. 415 Rubber Processing Oil
5. Silica

PLANT B: DODPA, Wytox ADP-F (Diethyl diphenylamine)

1. Diphenylamine
2. Diisobutylene
3. Aluminum Chloride
4. Caustic
5. Microcel E

Other Wytoxs

1. 2-Ethylhexoic acid (BF₃ Etherate?)
2. Paraformaldehyde
3. Muriatic Acid
4. Odorless mineral spirits
5. p-Toluene sulfonic acid
6. Dinonylphenol
7. Nonyl phenol
8. Hexylene glycol
9. Potassium oleate
10. Mineral seal oil
11. Di-octyl-phthalate
12. Zinc hexoate
13. Potassium hexoate
14. Zinc Octate
15. Cadmium octate
16. Potassium octate
17. Lead octate
18. Monoethanolamine

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-2-

PLANT B: (Continued)

Other

1. Tiki Oil
2. Phenol formaldehyde resin
3. Formaldehyde
4. Anhydrous ammonia
5. Urea
6. Ammonium chloride
7. Cashew nut oil

PLANT C-1: Kempore (Azodicarbonamide)

1. Hydrazine, 64%
2. Urea
3. Sulfuric acid
4. Sodium chlorate
5. Sodium bromide
6. Sodium sulfite

WYTOX - Tris (nonyl phenol) phosphite

1. Nonyl phenol
2. Dinonyl phenol
3. Phosphorous trichloride
4. Viko Flex 7170 (expoxidized soy bean oil)
5. Formaldehyde
6. Paraformaldehyde
7. Oxalic Acid
8. Heptane

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-3-

PLANT C-1: (Continued)

Other

1. Sodium bicarbonate
2. Sodium stearate
3. Zinc oxide
4. Zinc stearate
5. Calcium stearate
6. Potassium stearate
7. Hydrated lime
8. Silicone
9. Glycerine
10. Aquarex L
11. Aquard
12. Sodium acetate
13. Natrasol
14. Ethylene glycol
15. N-Nitroso di-phenyl amine
16. Toluel
17. Toluene
18. Drakeol #35
19. Inks

PLANT C-2 - C-3

1. Kempre
2. Urea)
3. Chlorine) Hydrazine solution 6%
4. Sulfuric Acid)
5. Arquard
6. Ethemeen
7. Zinc octate
8. Potassium oleate
9. Di-octyl-phthalate
10. 711 Oil

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- PLANT D:
1. Urea
 2. Diphenyl oxide
 3. Chlorosulfonic acid
 4. Formamide
 5. Hydrazine - 64% solution
 6. Oxybisbenzene sulfonyl chloride
 7. Oxybisbenzene sulfonyl hydrazide
 8. 5-phenyl tetrazole
 9. Di Methyl CARBONATE

Carboxy methyl cellulose

Azobisisobutyronitrile

Phthalic anhydride

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INTER OFFICE MEMO



RECEIVED

SEP - 2 1983

V. NORWOOD

TO V. Norwood
FROM R. J. McBrien
SUBJECT Wilmington - Products and Raw Materials

AT Charleston

AT Wilmington

DATE August 29, 1983

COPY TO

Attached is a listing of the current products/raws and others which I can recall from memory (since 1966). There are several more products which I have identified in old sales booklets from the '50's. Several long-term supervisory and technical employees are attempting to recall details on their composition. When this latter information is available, I'll send it to you.

A handwritten signature in black ink, appearing to read "Ronald J. McBrien".
Ronald J. McBrien

RJM:jl

OW 006280

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PRODUCT	RAW MATERIAL	BY-PRODUCTS/WASTE	REMARKS
a) Azodicarbonamide (Kempore®)	hydrazine (65%) Urea Sodium chlorate Sulfuric acid (93%) Sodium bromide Sodium sulfite	Ammonia, anhydrous HCl, HBr, NaBr Na ₂ SO ₄ , NaCl (NH ₄) ₂ SO ₄ Urea H ₂ SO ₄	• Current process • Operated 1956 - present
b) Azodicarbonamide	-----	-----	• Process used up to 1967 used sodium dichromate in lieu of sodium chlorate Dilute hydrazine (3.2-3.5%) also used
c) Dinitrosopenta-methylenetetramine (Opex®)	Formaldehyde NH ₃ (from azo process) hexamethylenetetramine sodium nitrite hydrochloric acid ammonium hydroxide rubber processing oil	NaCl Formaldehyde processing oil NaNO ₃	• Current process • Amorphous silica was previously added as a filler • Operated 1953 - present
d) Trisnonylphenyl-phosphite TNPP (Wytox 312)	nonyl phenol PCl ₃ Vikoflex (epox. soy-bean oil)	HCl (absorbed in water and used in-plant or sold)	• Current process • Operated 1965 - present • Oxalic acid used to rework off-spec W-312 in to W-345
e) Polymeric phosphite (Wytox 345/355/438)	nonyl phenol PCl ₃ paraformaldehyde	HCl (absorbed in water and used in-plant or sold)	• Current process
f) Actafoam R-3	2 - ethylhexoic acid DOP Zinc oxide potassium oleate	Element from polishing filter	• Current process • Operated 1963 - present • Early process produced sludge cake in filter
g) Actafoam R-5	2 - ETH DOP mineral spirits KOH CdO, ZnO	Element from polishing filter	• Discontinued
h) Actafoam XR-34	2 - ETH DOP ZnO potassium oleate MEA Lead octoate Aerosil 380	None	• Discontinued
i) Actafoam R-1	2 - ETH DOP, KOH ZnO mineral spirits	Element from polishing filter	• Discontinued

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72 TO 2625#083660041# P.10

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P. 10

PRODUCT	RAW MATERIALS	BY-PRODUCTS/WASTE	REMARKS
j) Actafoam R-10	Z - ETH ZnO mineral spirits	Element from polishing filter	*Discontinued
k) Hydrazine (and semicarbazide)	Urea Chlorine NaOH Sulfuric acid	Sodium Sulfate Sodium Chloride Ammonium Sulfate Urea	*Discontinued *Operated 1963 - 1970
l) Kempore - plasticizer dispersions	Azodicarbonamide DOP or Santicizer 711 Additives (see remarks)		*6 or 8 varieties *Generally 50/50 az and plasticizer w/ various wetting agents, viscosity improvers, etc.
m) Dioctyldiphenyl- amine (Wytox ADP-F and Lestane)	diphenylamine diisobutylene aluminum chloride Microcel E NaOH	DIB DDPA aluminum hydroxide NaCl	*Operated 1962 - 1971
n) 4,4' oxybisben- zenesulfonyl- hydrazide (Nitropore OBSH)	chlorosulfonic acid diphenyl oxide hydrazine (65%) ammonium hydroxide	HCl Sulfuric acid	*Operated 1969 - 1974 (chloride salt also produced)
o) 5-phenyltetroazole (Expandex 5 PT)	Benzonitrile Sodium azide Sodium nitrite Ammonium chloride hydrochloric acid dimethylformamide	Sodium chloride Sodium nitrate dimethyl formamide benzonitrile	*Current process *Produced in pilot plant until 1983
p) N-Nitrosodiphenyl- amine (Wiltrol N)	diphenylamine Sodium nitrite Sulfuric acid	Sodium nitrite Sodium sulfate N-Nitrosodi- phenylamine	*Discontinued *Operated 1965 - 1967
q) Phenol/Formalde- hyde & Urea/for- maldehyde resins (Poly-Phen 201, 202, 218)	urea phenol formaldehyde cashew nut shell liquid		*Discontinued *Operated 1961 - 1967
r) Urea, ground (RIA NC,CS,66)	urea processing oil Calcium stearate Aerosil	None	*Current product *Grinding operation only
s) phthalic anhydride ground (Wiltrol P)	phthalic anhydride processing oil	None	*Discontinued approx 1970 *Grinding operation only

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72 TO 2625#083660041RI P.11

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PRODUCT	RAW MATERIALS	BY-PRODUCTS/WASTE	REMARKS
c) dioctyphthalate dibutylphthalate	phthalic anhydride 2 - ethylhexanol butylalcohol		*Discontinued *Operated 1955 - 1961
a) polymeric hindered phenol (Wytox PAP)	dinonyl phenol nonyl phenol PTSA paraformaldehyde mineral spirits	Element from polishing filter	*Current process *Operated 1971 - present
v) Polymeric phenol System (Wytox PDA)	same as Wytox PAP except Wytox ADF (m) added	Element from polishing filter	*Discontinued 1981 or 1982
w) Self-emulsifying polymeric hindered phenol (Wytox PAP-SE)	dinonyl phenol nonyl phenol paraformaldehyde PTSA mineral seal oil hexylene glycol potassium oleate	Element from polishing filter	*Current process *Operated infre- quently
x) Alkaryl phosphite (Wytox 320)	Nonyl phenol dinonyl phenol	HCl (absorbed in water)	*Current process
y) Wytox 313	Nonyl phenol PCl ₃ Triisopropanolamine	HCl (absorbed in water)	*Discontinued *Very small volume produced
Modified Azo products	Azodicarbonamide additives	None	Blending operat- only
aa) Actafoam F-2 Powder	Zinc stearate sodium stearate	None	Mixing Operation
ab) Actafoam F-2 Paste	same as F-2 Powder (aa) except Drakol #35 oil added	None	Mixing Operation
cc) Polycone 1000	Silicone (Polycone 125X) glycerine A quarex L Antifoam	None	Mixing Operation

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SEP - 6 1983

V. NORWOOD

TO V. Norwood AT Charleston DATE August 30, 1983
FROM R. J. McBrien AT Wilmington COPY TO
SUBJECT Wilmington -- Products and Raw Materials

Attached is the continuation of the initial listing (see memo 8/29/83). This final listing has been compiled from information available from the laboratory files.

Several products are listed in old sales booklets but information on their composition or quantity (whether plant or laboratory produced or re-sale items) is unavailable. These are:

- ° ACETONE SEMICARIZONE
- ° PI - LINE
- ° POLY - SPERSE LC-20
- ° POLY - MAG
- ° POLY - BRITE

Ronald J. McBrien
Ronald J. McBrien

RJM:j1

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P.13

PRODUCT	RAW MATERIALS	BY-PRODUCTS	REMARKS
3d) De-Tac NP-27	Arquad Sodium Acetate Natresol Ethylene glycol	None	* Source - G. Morri
ee) Dilaurylthio- propionate (Wytox LT)	3,3 thiadipropionic acid PTSA	Lauryl alcohol	* Source - G. Morri
ff) Poly-Sperse AP-2	Liqro Tall oil Triiso propanolamine Process oil NaOH (20%)	None	* Source - G. Morri
gg) Barium Azocar- bonate (Expandex 177)	Barium oxide Hydrazodicarbonamide Acetone	Acetone filtrate	* Source - G. Morri
hh) TMT (2-MT)	MEA CS H_2SO_4 , HCl Sodium hypochlorite	Na_2SO_4 H_2SO_4	* Source - G. Morri
ii) Poly-Phen 188	Formaldehyde Phenol Urea		* Source - G. Morri

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12/17/02 12:37PM;#577; Page 14/20

page 1 of 2

INTER OFFICE MEMO



TO Dave Vaughn
FROM M. Ahsan
SUBJECT WASTE MATERIAL GENERATION

AT Stamford
AT Wilmington

DATE 2/18/81
COPY TO R.J. McBrien

Attached is a list of waste material generated at Wilmington Plant for use in developing a waste inventory for the Plant, and for use in evaluation of a central incineration facility for the disposal of the waste material.

OW 002478

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p.15

KEMPORE DISPERSIONS

3,000 gallons/year
50% Kempre, DOP, Dirt
contaminants or water.

WYTOX - 312, 345

2,500 - 3,000 lbs/year
Batch hydrolysis, H₂O
contaminated, dirt, improper batch mixing

MISC. WASTE LIQUIDS

1,000 gallons/year
polymore (silicone fluid emulsion), OESH,
Kempore WD (kempore and wytox 312)

FLOOR SWEEPINGS SOLIDS

15,000 lbs/year
contaminated opex and kempore, floor dust,
cement, dirt, calcium stearate,
Misil etc.

PAP 55 WYTOX

500 - 1000 gallons/year
cross contaminated with other products

SODIUM AZIDE LINERS

1 drum/year

SKIMMED OIL (Treatment Plant)

1200 gallons/year

MAINTENANCE (Oil from drivers)

2,000 gallons/year

bab

DW 002479

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12/17/02 12:38PM;#577; Page 16/20

page 1 of 3

OM-10000R

INTER OFFICE MEMO



TO D. Vaughn AT Stamford
FROM M. Ahsan AT Wilmington
SUBJECT HAZARDOUS SUBSTANCES STORAGE FACILITIES

DATE 3/19/81

COPY TO DFC, RMC, MT ✓

Attached is a copy of plot plan and a list showing the location of each hazardous substance stored at Wilmington Plant site.

3

OW 002473

WHY FILE THIS COPY? IF YOU MUST RETAIN IT, SPECIFY A DEFINITE RETENTION PERIOD: ONE YEAR _____ OTHER _____

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page 2 of 3

OBJECTIVES:

The objective of this project is to develop a plot plan showing the location of each hazardous substance stored at Wilmington Plant site. This will also include the areas for highest potential for spill and noting the direction of flow of spill if it should occur and what precautionary measures should be taken to deal with any spill involving the methods of prevention.

DESCRIPTION:

The Comprehensive Environmental Response, Compensation and Liability Act of 1980 (Superfund) requires that releases of hazardous substances be reported to the National Response Center as soon as they are discovered. A list of hazardous substances (material and quantity) subject to Superfund at the Wilmington Plant, is attached to the report for general information.

A copy of this list and plant spill report form will be issued to all the supervisors and other personnel involved.

A plot plan showing the location of each hazardous substance stored is also attached along with a list of hazardous substances being used in production and flow of direction of spill.

A supply of "speedy dry" hazorb, universal absorbent or similar material will be available near every hazardous substance storage location.

RECOMMENDATIONS:

1. Warehouse #4 (main) has three 3" or 4" drains on the floor which they flow outside of the building (west side) - surface drains, not to the waste Treatment Plant. These drains should be either connected to Treatment Plant or completely blocked, because this is a , PCl_3 , NaClO_3 and benzonitrile storage area.

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RECOMMENDATIONS: (cont'd)

2. Muriatic acid diked storage area, outside plant C-1 needs repair.
3. A spill of NaNO₂ will flow into surface drain, so it has to be diked on north side.
4. Hydrazine in Plant D-3, should be moved to curbing or more secure storage area.
5. Plant B tank farm, DOP storage area, should have concrete floor and curbings.
6. The waste ammonia storage tank (sump #1) needs beam, with a drain into sump #1. At present any spill from ammonia tank will be a safety hazard.

bab

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<u>MATERIAL</u>	<u>STORAGE</u>	<u>LOCATION</u>	<u>DRAIN</u>	<u>SPILL FLOW DIRECTION</u>	<u>SPILL CLEANUP SUPPLY</u>
Ammonia (NH ₄ OH)	Tank	Treatment Plant	no drain no curbing	open surface will flow in north-east direction	Water
Ammonia (NH ₄ OH)	Tank	Plant C-3	2. Plt.	into drain to T.P.	Water (Plant C)
Benzonitrile	Drum	#4 Warehouse	Floor	west side open surface	Hazard-Hazorb (Universal absorbent, warehouse)
Diethyl Phthalate (DOP)	Tank	Tank farm Plant B	no drain	into the ground	Hazard (Maintenance)
Hydrazine (N ₂ H ₄)	Drum	Plant D-3	T. Plt and surface	into drain	Hazorb/water
Hydrazine	Tank	Tank farm Plant D	T. Plt.	into drain	Water (Plant D)
Hydrochloric Acid (HCl)	Tank	Plant C-1 (north)	T. Plt.	Beam, drain to T.P.	Water
Hydrochloric Acid	Tank	Plant A	no drain	Diked, gravel	Water
Phosphorus Trichloride (PCl ₃)	Drum	#4 Warehouse	Floor	West side, open surface	Hazorb
Sodium Chlorate (NaClO ₃)	Tank	Plant C-1 (south)	N.R.D.	into drain and open surface	Hazorb/water
Sodium Hydroxide (NaOH)	Drum	Plant C-1 (side room)	T. Plt.	C-1 floor	Water
Sodium Nitrite (NaNO ₂)	Tank	Plant A	no drain	Surface towards Plant A	Water
Sulfuric Acid (H ₂ SO ₄)	Tank	no drain	Diked area, concrete floor	Water	

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